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The Lectotype of *Megathymus aryxna* Dyar (Lepidoptera, Megathymidae)

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Despite the excellent revision of the Megathymidae by Barnes and McDunnough (1912), there has existed considerable confusion for a number of years concerning the nomenclatorial status of certain names in that family. This uncertainty was caused in part by the fact that one name had been proposed from what appeared to be a mixed series, and it was dubious whether the type had in fact been fixed, and if so, by whom. It is to clarify this situation and put to rest the confusion now existing that the present paper is offered. No new name is proposed, and the taxonomic position of the names discussed is not treated, although our studies have led us to definite conclusions respecting some of them.

Before the case of *Megathymus aryxna* Dyar (1905), the subject of this paper, is considered, mention should be made of one earlier name proposed in that genus. This is *neumoegeni* Edwards (1882). This species was described from a series of three specimens taken by Jacob Doll near Prescott, Arizona. The types are in the United States National Museum. A fourth specimen was taken by Doll, but it is not considered a type, although so treated by Strecker (1900). That specimen is in the Chicago Natural History Museum.

Coming then to *aryxna* we find that the first element of uncertainty

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has been caused by differences of opinion as to what constitutes the type series, and which specimen is the lectotype, because Dyar did not designate a holotype in the original description. Since that description is brief, it seems best to quote it in full:

"*M. aryxna*, new species.

"This is the form figured in the *Biologia Cent.-Am. Lep. Het.*, III, pl. 69, figs. 3 and 4. It differs from *neumoegeni* in having the fulvous markings considerably reduced, the outer band being broken into spots. I have ten specimens from Arizona from Dr. Barnes and Mr. Poling."

Three different conclusions have been drawn from this description as to what constitutes the type series. First, that it consists of the two specimens figured as *neumoegeni* in the "Biologia" (figs. 3 and 4), the first of which (fig. 3) was subsequently named *drucei* by Skinner (1911). Second, that the type series consists only of the 10 specimens actually before Dyar when he drew up the original description. These specimens are in the United States National Museum. Third, that it consists of all 12 specimens, i.e., the two figured in the "Biologia" and the 10 before Dyar. The present authors do not believe that it is necessary to decide this interesting question, because they are of opinion that under the "Règles" the lectotype must be selected from the two specimens figured in the "Biologia." But before proceeding to that question, we shall follow briefly the chronological development of the problem.

As noted above, Skinner in 1911 proposed the name *drucei* for figure 3 in the "Biologia." This certainly eliminated that specimen from consideration, if not under the "Règles" as then existing it had that effect by analogy where the type series consists of two species under paragraph 73.B.h. of the Banks and Caudell Code (1912) which was at that time followed by entomologists when the "Règles" were silent. Therefore, if the type series of *aryxna* consisted only of the two specimens figured in the "Biologia," the remaining specimen by elimination would be the lectotype of *aryxna*. If the type series consisted only of the 10 specimens before Dyar, the result would be different, and the same could be true if it consisted originally of all 12 specimens.

In the aforementioned revision of Megathymidae Barnes and McDunnough partially considered this problem and came correctly to the conclusion that Dyar's 10 specimens consisted of two distinct species, six of one species and four of the other, that the six specimens were the same as those figured in the "Biologia" as *neumoegeni*, but that they could not hold validly the name, and that Dyar should designate one of the remaining four specimens as the type (lectotype) of *aryxna*, although, as Barnes and McDunnough admitted, those specimens did not agree very well with

the original description, Dyar having believed apparently that they were females and the other six males. Barnes and McDunnough did not designate any type (lectotype) of *aryxna*, but at or about the time of the publication of their paper Dyar wrote a holotype label as suggested by them and affixed it to one of the four specimens, but neither he nor anyone else ever published that fact, and it is believed confidently that his action was totally ineffective for that reason and also because none of the 10 specimens was eligible for selection as the holotype.

Skinner and Williams (1924) in their work on the male genitalia of the Hesperiidae of North America considered the problem and fixed definitely the type of *aryxna* as figure 4 of the "Biologia." This action would have been effective and confirmative of Skinner's earlier action in 1911 when he named figure 3 as *drucei* if Dyar's labeling of one specimen was ineffective, and would have sunk *aryxna* as a synonym of *neumoegeni*, assuming figure 4 to be that species.

It is quite clear from Article 31 of the "Règles," as amended by the Fourteenth International Congress of Zoology at Copenhagen (Hemming, 1953a), that where a new name (*aryxna* in this case) is published partly as a substitute name (for the "Biologia" figures of *neumoegeni*) and partly upon specimens before the author (Dyar's 10 specimens) when he published the name, the name is to adhere to the species, whatever it may be (*neumoegeni* in this case), in respect to which it was published as a substitute, the material which the author had before him when he published his substitute name being only subjectively, and therefore possibly erroneously, identified by him with the species that he renamed (see Hemming, 1953b, MS). The action at Copenhagen was taken as a result of a decision at the Thirteenth International Congress of Zoology held in 1948 at Paris (Hemming, 1950), and based upon documents submitted to the Copenhagen meeting (Hemming, 1953b). Therefore, when we find that Dyar stated "This [*aryxna*] is the form figured in the Biologia Cent.-Am. Lep. Het., III, pl. 69, figs. 3 and 4. . . .," it is evident that he intended *aryxna* as a substitute name for the specimens figured as *neumoegeni*, and that those specimens must be the syntypes from which the lectotype would have to be designated.

The only question left for consideration is which of the two specimens figured was first selected as the lectotype of *aryxna*. As explained above, Skinner in 1911 made the specimen figured in the "Biologia" as figure 3 the holotype of *drucei*. Consequently, the specimen, figure 4, automatically became the lectotype of *aryxna*, that being the only remaining syntype of *aryxna* after the removal to another species (*drucei*) of the only other syntype. Under one of the Paris decisions (Hemming, 1950), the ruling

in regard to the type species of genera given in the Commission's Opinion 6 was written into Article 31, which refers to type specimens of species. It is true that at Copenhagen the application to type specimens of the ruling given in Opinion 6 was repealed by the deletion of that provision from Article 31, but at the same time it protected the position where lectotypes in the past had been determined by this provision.

Our conclusion is, therefore, that the lectotype of *aryxna* is the specimen figured in the Lepidoptera Heterocera section of the "Biologia Centrali-Americanana" as figure 4 on plate 69 of volume 3. The specimen is in the British Museum (Natural History). This result is especially fortunate in that it is confirmatory of the works of Skinner, and Skinner and Williams, and permits the recognition of *Megathymus evansi* Freeman (1950) as a valid name, it being the same species as the four specimens before Dyar. The holotype of *evansi* is in the American Museum of Natural History.

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